Amos Hason

Israel amos@hason.science amos.hason.science amos-hason AmosHason

About Me

Independent and self-disciplined researcher with proven self-learning abilities. Curious, ambitious, and passionate about artificial intelligence research and development. Quickly adapts to new development environments, platforms, technologies, and methodologies.

Available for full-time onsite and remote work. Able to relocate.

Experience

Research Assistant *Be'er-Sheva, Israel*
Ben-Gurion University of the Negev *Mar 2023 – Dec 2024*

- **Research area:** Unsupervised sequential disentangled representation learning.
- Worked with fellow lab members to develop a novel **YAML**-configurable multi-modal (video, audio, and time-series) disentanglement benchmark framework.
  - Contributed to development of an end-to-end pipeline of dataset generation/loading, architecture interface, training, latent space exploration, and evaluation, using novel disentanglement metrics based on attribute swapping and **LLM**-as-a-judge among others.
  - Created a novel dataset of neurally synthesized melodies with varied features across instruments for music disentanglement tasks.
  - Submitted a paper to **NeurIPS** 2025 (currently under review).
- Developed a new variant of an existing autoencoder architecture.
  - Achieved absolute improvements of 3-16% over state-of-the-art results on video disentanglement metrics.
  - Achieved ~3 times more compressed latent space in comparison to the original architecture.
- Suggested a new standard for comprehensive reporting of training environment details to mitigate reproducibility issues.
- Primarily used **PyTorch** and **PyTorch Lightning**, but also used **TensorFlow**, **Hugging Face**, and **Scikit-learn** for specific research tasks.
- Trained models and designed and performed experiments, including analysis and visualization of the learned latent space for model explainability and experiments in the audio domain with **Torchaudio**, **DDSP**, **Stable Audio**, and audio representations such as **mel spectrogram**, over a **Slurm HPC** cluster.
- Tracked training data and experiment results through **Neptune**'s **MLOps** platform.

Teaching Assistant *Be'er-Sheva, Israel*
Ben-Gurion University of the Negev *Mar 2022 – Mar 2024*

- Provided teaching assistance for undergraduate courses in mathematical applications of computer science, algorithm design, and programming with **Python** (including **SciPy**, **NumPy**, **Pandas**, and **Matplotlib**).

Software Engineer *Herzliya, Israel*
Varonis *Oct 2020 – June 2021*

- Designed and developed **C#** (**.NET Framework**) and **Python** backend components for productizing data security insight generation features based on user profiling and peering models developed using **Pandas**.
- Worked in tandem with data scientists to ensure correctness of delivery.

Software Engineer *Tel Aviv, Israel*
Fabric *Feb 2018 – Oct 2020*

- Designed and developed distributed robotics software using **C#** with **ASP.NET** (**.NET Core**) and **Python** on **Linux**.
- Initiated software projects from scratch as well as contributed to existing software projects.

- Involved in the entire software development life cycle via **CI/CD**: planning, prioritizing, design, development, testing, integration, and release.
- Deployed services using **Docker**, implemented message queuing with **RabbitMQ**, managed data storage on **AWS**, monitored systems through **Elasticsearch**, and performed data analysis using **F#**.

Quality Assurance Engineer *Tel Aviv, Israel*
Check Point Software Technologies *Mar 2013 – Nov 2014*

- Conducted performance testing of network security solutions.

Education

Ben-Gurion University of the Negev *Mar 2022 – Dec 2024*
M.Sc. in Computer Science

- **Focus:** Intelligent and autonomous systems.
- **Skills:** Deep learning, deep generative models, time series models, signal processing, computer vision, music information retrieval, sound design.
- **GPA:** 90/100.
- Volunteered extracurricularly during wartime: (1) contributed to research and development of operational aerial threat (e.g., combat drones) detection solution using deep learning of audio features, and (2) contributed to development (mainly soundtrack composition) of a video game dedicated to the relaxation of children.

The Open University of Israel *Mar 2015 – May 2017*
B.Sc. in Sciences: Emphasis on Computer Science

- **Skills:** Artificial intelligence, computational intelligence, computational creativity, data mining, machine learning, artificial neural networks, evolutionary computation, algorithms, system programming (**C**), object-oriented programming (**Java**), functional programming (**Lisp**), programming language theory, database systems (**PostgreSQL**), physics, chemistry, meteorology.
- **GPA:** 88/100 (**Honors Graduate**), **top 20%**.